

## REMARKS

Claims 1, 3-8, 10, 12-15, 19-25, and 27-31 remain pending in the instant application. All claims presently stand rejected. Claims 1, 3, 5, 12, 13, 20 and 27 are amended herein. Claims 2, 9, 11, 16-18 and 26 are canceled without prejudice. New claims 29-31 have been added. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

### *Claim Objections*

In the instant Office Action, the Examiner objected to claims 11, 12, 26 and 27. Claims 11 and 26 have been canceled and their limitations included in respective claims 1 and 20. The claim language has been amended as suggested by the Examiner. Claims 12 and 27 have also been amended as suggested by the Examiner.

### *Claim Rejections – 35 U.S.C. § 112*

The Examiner rejected independent claims 13 and 20 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. Accordingly, the preamble of claims 13 and 20 have been amended to overcome the rejections.

### *Claim Rejections – 35 U.S.C. § 103*

Claims 1-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 5,715,387 to Barnstijn et al. ("*Barnstijn*") in view of US Patent No. 5,715,387 to Lee ("*Lee*"). Applicants respectfully traverse the Examiner's rejections.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03.

Claim 1 as presently amended states:

1. A method, comprising:
  - initializing a debugger in a first computer system during the pre-boot phase of the first computer system, the debugger to operate from a firmware environment of the first computer system, the debugger executed by the first computer system independently of an operating system (OS) of the first computer system;
  - initializing a communication channel of the first computer system to enable a second computer system to be communicatively coupled to the first computer system;
  - communicatively coupling a second computer system to the first computer system at the communication channel;
  - entering the debugger in response to a debug event;
  - gathering machine state information about the first computer system with the debugger; and**
  - sending the machine state information to the second computer system from the first computer system.**

*Barstijn* teaches a method to allow a developer of a program observe the operation of the program in a target system as the program is being developed on a host computer system. (Summary of Invention, col. 2, lines 49-54 and Fig. 1). As shown in Figs. 4 and 5, the example target system is a handheld MPT mobile system such as a credit card reader. The host system is a computer system with typically more processing

and storage capabilities than the target system (col. 2, lines 55-56). *Lee* is directed to a method for using two copies of open firmware for self-debug capability. Neither *Barjstijn* nor *Lee* teaches or fairly suggests each and every one of the limitations in above amended claim 1. At the very least, neither reference teaches or suggests examining the first computer system with the debugger by “**gathering machine state information about the first computer system with the debugger and sending the machine state information to the second computer system from the first computer system.**”

The Examiner cites a **host system** and **target system** of *Barnstijn* as corresponding to Applicants’ claimed respective **first computer system** and **second computer system**. In rejecting previous claim 9, the Examiner cites *Barnstijn* which states that the host or first computer system translates operating system (OS) calls into signals that are transmitted over a communications link between the two system. Such OS calls are commands to facilitate input and output events to be physically executed or initiated using the target system’s hardware. Nowhere in *Barnstijn*, however, does it state that **machine state information is gathered about the host computer system and sent to the target system.**

Furthermore, there is no motivation in *Barnstijn* for gathering machine state information about the host computer system and sending it to the target system because it is the host computer system that accomplishes the development or debugging of the program under development. The target system in *Barnstijn* has more austere processing and storage than the host system (col. 2, lines 55-56), and as such, its role is to provide confirmation of the correct operation of the computer program, while the more host

system develops and tests the program. The “**debug application**” in the target system helps to relay hardware events to the host system and/or interpret messages and translate OS calls between the systems, it does not analyze or actually perform debugging on its own (col. 7, lines 66-67, col. 8, lines 1-65).

Independent claim 1 is nonobvious for at least another reason. *Barnstijn* and *Lee* fail to teach a “debugger executed by the first computer system independently of an operating system of the first computer system.” In rejecting claim 11, which includes the above limitation, the Examiner cites *Lee*, stating that an Open Firmware user interface is used as a debugging tool. “Open Firmware” is a standard for boot firmware that is usable on different processors and buses (col. 1, lines 43-48). Whether or not *Lee* teaches an Open Firmware user interface as a debugging tool, Open Firmware is firmware that is hardware independent, **not Operating System independent**, as in amended claim 1.

Applicants submit that *Lee* also fails to disclose the above limitations. Consequently, the combination of the references fails to teach or suggest all elements of claim 1, as required under M.P.E.P. § 2143.03. Amended independent claims 13 and 20 include similar nonobvious elements as amended independent claim 1. Accordingly, Applicants request that the instant §103(a) rejections of claims 13 and 20 also be withdrawn.

### *Dependent Claims*

The dependent claims are nonobvious over the prior art of record for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own. Accordingly, Applicants

respectfully request that the instant § 112 and § 103 rejections of the dependent claims be withdrawn.

*New Claims*

Applicants have added independent claim 29:

29. A method, comprising:

initializing a debugger in a first computer system during the pre-boot phase of the first computer system, the debugger to operate from a firmware environment of the first computer system, the debugger executed by the first computer system independently of an operating system of the first computer system;

initializing a communication channel of the first computer system to enable a second computer system to be communicatively coupled to the first computer system;

communicatively coupling a second computer system to the first computer system at the communication channel;

entering the debugger in response to a debug command from the second computer system at the first computer system;

setting a watchdog timer at the first computer system to periodically check for another debug command at the communication channel; and

examining the first computer system with the debugger.

New claim 29 is patentable for at least the following reasons. As discussed above, the references fail to teach or suggest a “debugger executed by the first computer system independently of an operating system of the first computer system.” The references also fail to teach or suggest “setting a watchdog timer at the first computer system to periodically check for another debug command at the communication channel.” The Examiner has referred to col. 2, lines 46-67 and col. 3, lines 1-28, in

rejecting claims 2-4, but the Applicants have not been able to find any reference to a watchdog timer or similar subject matter in the referenced sections. Applicants respectfully request a favorable notice of allowance of claim 29 and its corresponding dependent claims.

### **CONCLUSION**

In view of the foregoing amendments and remarks, it is believed that the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative at (206) 292-8600 if the Examiner believes that an interview might be useful for any reason.

## CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

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Date: 4.10.07



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